Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Section 309(j)	)	
of the Communications Act	)	PP Docket 93-253
Competitive Bidding	)	
	)	

COMMENTS OF IVHS AMERICA

The Intelligent Vehicle-Highway Society of America ("IVHS AMERICA" or "the Society") hereby submits its Comments on the Notice of Proposed Rule Making ("NPRM") in the above-captioned proceeding.[1] By the NPRM, the Commission proposes to adopt Rules implementing the statutory authority conferred upon it by Title VI of the Omnibus Budget Reconciliation Act of 1993 (the "Budget Act") to award Title III radio licenses through the use of competitive bidding.[2]

STATEMENT OF INTEREST

Incorporated in August, 1990, IVHS AMERICA is a non-profit educational and scientific organization whose purpose is to coordinate and promote the research, development and deployment of intelligent vehicle-highway systems ("IVHS") in the

---

[1]IVHS AMERICA relies upon its Communications Spectrum Task Force (the "Task Force") for the development of submissions to the FCC and NTIA. The Task Force is comprised of a subset of the Society's membership with expertise and interest in issues related to RF spectrum allocation policy. The Task Force was formed by the Society to provide an interface between IVHS AMERICA and the spectrum policymakers at the FCC and NTIA.

[2]Pub. L. No. 103-66, Title VI, Section 6002(b), 107 Stat. 312, 392 (1993); Implementation of Section 309(j) of the Communications Act, FCC 93-455 (October 12, 1993).

United States.[3] With a membership comprised of federal, state and local government, private industry, and academic interests, IVHS AMERICA is a public/private partnership and serves as a utilized Federal Advisory Committee to the U.S. Department of Transportation ("DoT").

In enacting the Intelligent Vehicle-Highway Systems Act of 1991 ("IVHS Act"), 23 U.S.C. Section 307, Congress set as a national goal the widespread implementation of an IVHS infrastructure to enhance the capacity, efficiency and safety of the Federal-aid highway system and to serve as an alternative to the construction of additional physical capacity in the highway system. IVHS products and services employ emerging communications, information and transportation technologies to improve the safety and efficiency of use of the roadway infrastructure in the U.S.[4] The enhancement in economic productivity in the U.S. from the deployment of IVHS has been estimated at $100 billion annually.[5] The Executive Branch and

---

[3]The views expressed herein are those of IVHS AMERICA and are not necessarily shared by each of the individual members of the Society or the Task Force.

[4]Experts have estimated that IVHS can reduce traffic fatalities by eight percent, or 3,300 lives saved and 400,000 injuries avoided each year at current traffic levels. IVHS is expected to relieve traffic congestion by up to 20 percent in the most heavily traveled corridors, and to alleviate congestion resulting from accidents, roadway construction and maintenance operations and associated detours throughout the nation, in rural as well as urban areas. See IVHS AMERICA "Strategic Plan For Intelligent Vehicle-Highway Systems in the United States" (May 20, 1992) at I-4.

[5]Id. at I-1.

Congress have allocated IVHS research and development the highest priority and provided funding for that research over the next six years.

In the IVHS Act, Congress requested DoT to prepare a strategic plan for the development and deployment of a nationwide IVHS infrastructure in the U.S. DoT, in turn, asked IVHS AMERICA, in its capacity as a utilized Federal Advisory Committee, to prepare its own strategic plan to serve as a foundation for DoT's Congressional Report. In response, IVHS AMERICA developed a Strategic Plan to guide development and implementation over the next twenty years of an IVHS infrastructure consistent with attaining the goals of safety, improved environmental quality and improved mobility. DoT's Congressional Report providing a road map for public sector involvement in the deployment of a nationwide IVHS infrastructure was submitted to Congress in December, 1992. Both the DoT and IVHS AMERICA Strategic Plans provide for the development of a nationwide IVHS system architecture to model the deployment of IVHS services and products throughout the U.S. The first phase of the IVHS system architecture program has commenced with the selection by DoT of four competing teams to develop fully-defined architectures in terms of functional allocations, high level system and sub-system descriptions, information/data flows and interface descriptions.

Paralleling the development of the nationwide IVHS Program Plan and system architecture programs has been the increasing availability today of IVHS services and products. Among the IVHS services and products deployed today are Automatic Vehicle Monitoring and Automatic Vehicle Identification services, Electronic Toll Collection services, Highway Advisory Radio systems and collision avoidance radars, among others.

The National IVHS Program Plan was detailed by DoT in a November 3, 1993 Tutorial sponsored by the FCC's Office of Engineering and Technology. As described by DoT at its Tutorial, the National Program Plan has identified for accommodation within the national IVHS infrastructure a set of twenty seven user services, including, among others, en route traveler's advisory and route guidance, MAYDAY advisory, hazardous materials (HAZMAT) monitoring and electronic payment services. A list of the IVHS user services is appended to these Comments.

Given the varying communications demands of the IVHS user services, IVHS ultimately will likely require a distributed communications architecture with reliance, where appropriate, upon Automatic Vehicle Monitoring, subcarrier communications, cellular, PCS, SMR and other land mobile communications service providers. In addition, a number of IVHS user services may require dedicated systems and spectrum, potentially including (without limitation) many of the "core" IVHS safety services. Accordingly, IVHS America anticipates that the adoption of Rules

in this proceeding governing the assignment of Title III radio licenses by competitive bidding will impact upon the deployment of the nationwide IVHS infrastructure.

COMMENTS ON NPRM

In its NPRM (at para. 176), the Commission notes that with the implementation of competitive bidding it is entering "new and uncharted territory" and that "the competitive bidding process has the potential to improve significantly on the ways in which the Commission has formerly awarded licenses." At the outset, IVHS AMERICA commends the Commission for its thoughtful approach to the many complex issues surrounding the commencement of license auctions, and for its leadership in resolving those issues expeditiously. IVHS AMERICA shares the views of Congress and the FCC that the implementation of license auctions, where appropriate, will serve the dual purposes of capturing the value of a public resource for the public treasury and of promoting a more expeditious and efficient assignment of that resource.

As noted above, IVHS AMERICA anticipates that the development and deployment of a number of the core IVHS services that have been defined by the National IVHS Program Plan may require the allocation of sufficient RF spectrum to accommodate the dedication of backbone IVHS communications systems to serve the nationwide IVHS infrastructure. As reflected by the DoT Tutorial, IVHS AMERICA believes that substantial progress has been made toward identifying IVHS communications requirements

and, to the maximum extent possible, targeting existing and planned communications services, such as AVM, cellular, PCS and SMR, for key roles in a distributed IVHS communications architecture to minimize the ultimate demands of IVHS for a new spectrum allocation. These efforts have included, among others, the participation by DoT and numerous private sector companies in many on-going operational tests throughout the U.S. seeking to identify IVHS communications needs, a forthcoming DoT procurement concerning communications alternatives for IVHS and the substantial participation by the IVHS community in intensive workshops to identify IVHS communications requirements hosted by the Transportation Research Board each of the past two years. The IVHS community has heard the message of spectrum policymakers regarding the urgency of timely identifying its communications requirements, and is building a growing consensus regarding those requirements.

Pending identification of the IVHS communications architecture, IVHS AMERICA recognizes that the FCC cannot address the particular issue of the applicability of auctions to any future IVHS spectrum allocation. Because the development and deployment of a nationwide IVHS infrastructure will require unprecedented cooperation between the public and private sectors, IVHS AMERICA, however, urges the FCC to retain within its auction Rules sufficient discretion and flexibility to decide at the appropriate time whether the use of competitive bidding to assign

licenses on any IVHS spectrum allocation will serve the public interest.

In particular, because the set of IVHS user services that have been identified by the National Program Plan encompass services both of a public safety, or quasi-public safety nature (such as MAYDAY alert and HAZMAT monitoring) as well as commercial services (such as mobile yellow pages), the ultimate IVHS communications architecture likely will permit and/or require the combining of these services on the same communications link. Early examples of this would include the use of the Automatic Vehicle Monitoring systems now deployed in the 902-928 MHz band for stolen vehicle recovery/MAYDAY functions as well as for fleet management purposes. Another early example would include the use of tag/reader systems deployed in the 902-928 MHz band for toll collection as well as for parking services. Other examples would include an in-vehicle signing system that would provide both safety (e.g.,speed limits, weather conditions) and commercial messages (e.g.,restaurant and other vendor locations). Economies of scale may dictate that a single communications link should perform both commercial and non-commercial IVHS functions.

In its NPRM (at paras. 30-33), the FCC proposes to evaluate "mixed service" licenses according to a "principal use" test consistent with the statutory requirements of the Budget Act. In assessing the principal use of a mixed service license,

the Commission suggested, in essence, a quantitative comparison of the relative commercial and private uses of the license.[6] Because mixed-use IVHS communications links may provide critical transportation safety services, IVHS AMERICA urges the Commission to retain the discretion in appropriate circumstances to assess the "principal use" of a license based upon qualitative considerations of the private uses. To this end, the FCC should retain the discretion to find the principal use of a service to be "private" if that service performs a fundamental public safety or quasi-public safety function as a component of the nationwide IVHS infrastructure.

IVHS AMERICA further requests that the Commission recognize that the optimal deployment of the IVHS infrastructure may involve substantially increased participation of federal, state and local government entities in activities that may be otherwise viewed as commercial ventures. Government entities, for example, may provide commercial access to in-vehicle signing systems.

In its NPRM (at para. 143), in evaluating the applicability of auctions to the Interactive Video and Data Service ("IVDS") the Commission found that the eligibility of governmental and educational entities for IVDS licenses "does not affect the substantive pecuniary character of the service." The

---

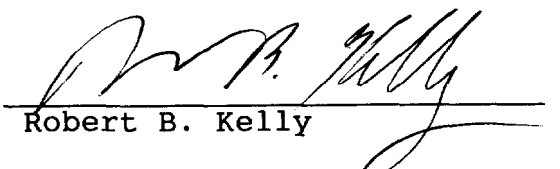
[6]In its NPRM (at n. 124), the Commission stated that frequencies reserved for public safety purposes would be considered "private" for purposes of applying Section 309(j).

Commission further noted "[t]he participation of [governmental and educational] entities in a commercial venture does not transform the substantive character of the commercial venture." NPRM at n.148. Because the implementation of the nationwide IVHS infrastructure may involve government involvement in the provision of commercial services to support or expedite the provision of fundamental transportation safety services, IVHS AMERICA urges the FCC to limit its findings regarding the participation of governmental entities as licensees expressly to IVDS licenses and to reserve its discretion to visit this issue in the IVHS context at the appropriate time.

For these reasons, IVHS AMERICA supports adoption of the NPRM consistent with the principles described above.

Respectfully submitted,

IVHS AMERICA

By: 

Robert B. Kelly

KELLY, HUNTER, MOW & POVICH, P.C.
1133 Connecticut Ave., N.W.
Washington, D.C. 20036
(202) 466-2425

ITS COUNSEL

November 10, 1993

APPENDIX-IVHS USER SERVICES

1. Pre-trip Travel Information (transit, driver and ride sharing).

2. En Route Advisory.
   - Driver Information
   - In-Vehicle Signing

3. En Route Transit Advisory.

4. Traveler Services Information (e.g., mobile yellow pages).

5. Route Guidance (general service, commercial vehicle and HAZMAT-specific guidance).

6. Ride Matching and Reservation (car/van pool, HOV control).

7. Incident Management.

8. Travel Demand Management.

9. Traffic control (includes transit priority and HOV priority).

10. Electronic Payment services (parking, transit fares, toll collection).

11. Commercial Vehicle Preclearance.

12. Automated Roadside Safety Inspection.

13. Commercial Vehicle Administrative Processes.

14. On-Board Safety Monitoring.

15. Commercial Fleet Management.

16. Public Transportation Management.

17. Personalized Public Transportation.

18. Emergency Notification and Personal Security.
   - Driver and Personal security
   - Automated Collision Notification
   - HAZMAT Incident Notification

19. Public Travel Security.

20. Emergency Vehicle Management.
    - Fleet Management
    - Route Guidance
    - Signal Priority

21. Longitudinal Collision Avoidance.
    - Rear End Crash Warning and Control
    - Autonomous Intelligent Cruise Control
    - Cooperative Intelligent Cruise Control
    - Head-On Crash Warning and Control
    - Passing Warning
    - Backing Crash Warning

22. Lateral Collision Avoidance.
    - Lane Change/Blind Spot Crash Warning and Control
    - Lane Keeping Warning and Control

23. Intersection Crash Warning and Control.

24. Vision Enhancement for Crash Avoidance.

25. Impairment Alert.

26. Pre-Crash Restraint Deployment.

27. Fully Automated Vehicle Operation.